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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,276	01/12/2007	Tom Kimpe	KIMP3006/JEK	5875

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EXAMINER
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BOLOTIN, DMITRIY

ART UNIT	PAPER NUMBER
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2629

MAIL DATE	DELIVERY MODE
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07/22/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/580,276	<b>Applicant(s)</b> KIMPE, TOM	
	<b>Examiner</b> Dmitriy Bolotin	<b>Art Unit</b> 2629	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 19-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. ____.                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>05/25/2006</u> .  | 6) <input type="checkbox"/> Other: ____.                          |

### DETAILED ACTION

It would be of great assistance to the Office if all incoming papers pertaining to a filed application carried the following items:

1. Application number (checked for accuracy, including series code and serial no.).
2. Group art unit number (copied from most recent Office communication).
3. Filing date.
4. Name of the examiner who prepared the most recent Office action.
5. Title of invention.
6. Confirmation number (See MPEP § 503).

### *Claim Objections*

1. **Claims 19, 27, 34, and 36** objected to because of the following informalities: the word “colour” should be replaced with word --color--. Appropriate correction is required.
2. **Claims 19, 27, 34, and 36** objected to because of the following informalities: the word “colours” should be replaced with word --colors--. Appropriate correction is required.
3. **Claims 19 and 27** objected to because of the following informalities: the word “minimise” should be replaced with word --minimize--. Appropriate correction is required.
4. **Claims 19, 20 and 26** objected to because of the following informalities: the word “minimising” should be replaced with word --minimizing--. Appropriate correction is required.

5. **Claims 19, 24, 27, 32, and 33** objected to because of the following informalities: the word "characterising" should be replaced with word -- characterizing --. Appropriate correction is required.

6. **Claims 24, 27, 34, and 36** objected to because of the following informalities: the word "characterisation" should be replaced with word -- characterization --. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. **Claims 19 – 36** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, the recitation "**generating a sub-pixel color which cannot be obtained by a linear combination of the sub-pixel colors of the other sub-pixels of the pixel** " is a negative limitation that rendered the claim indefinite because it is an attempt to claim the invention by excluding what the inventors did not invent rather than distinctly and particularly pointing out what they did invent. In re Schechter, 205 F.2d 185, 98 USPQ 144 (CCPA 1953).

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9. **Claims 19 – 26** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In **claim 19**, the recitation “**providing a representation of a human vision system by calculating an expected response of a human eye to a stimulus applied to a sub-pixel**” is unclear; the examiner is confused about how the representation of a human vision system is provided and how the expected response of a human eye to a stimulus is calculated. How does one can calculate in response of a human eye to a stimulus applied to a sub pixel? The recitation of the claim does not explain how the calculation is done.

Also, in **claim 19**, the recitation “**characterizing at least one defect sub-pixel present in the display**” is also unclear, in particular it is unclear when the defect sub-pixel is characterized, is the characterization performed when the display is fabricated or during the normal operation of the display?

**Claims 20 – 26** are rejected based on their dependence on **claim 19**.

10. **Claims 27 – 36** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In particular it is unclear what constitutes **characterization data for a human vision system** and how the human vision system is characterized. It is also unclear

whether the second characterization data is obtained during the fabrication or during the normal operation of the display.

**Claims 28 – 33** are rejected based on their dependence on **claim 27**.

**Claim 35** is rejected based on its dependence on **claim 34**.

### ***Allowable Subject Matter***

11. **Claims 19 - 36** would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

12. The following is a statement of reasons for the indication of allowable subject matter:

a. Markandey et al. (US 5,504,504) is the closes prior art of record fails to disclose *“a method comprising: providing a representation of a human vision system by calculating an expected response of a human eye to a stimulus applied to a sub-pixel, characterizing at least one defect sub-pixel present in the display, the at least one sub-pixel intended for generating a first sub-pixel color, the defect sub-pixel being surrounded by a plurality of non-defective sub-pixels, deriving drive signals for at least some of the plurality of non-defective sub-pixels in accordance with the representation of the human vision system and the characterizing of the at least one defect sub-pixel, to thereby minimize an expected response of the human vision system to the defect sub-pixel, and driving at least some of the plurality of non-defective sub-pixels with the derived*

*drive signals, wherein minimizing the response of the human vision system to the defect sub-pixel comprises changing the light output value of at least one non-defective sub-pixel intended for generating another sub-pixel color, said another sub-pixel color differing from said first sub-pixel color”.*

b. Markandey et al. (US 5,504,504) is the closes prior art of record fails to disclose “*a system comprising: a defect characterizing device for generating second characterization data for at least one defect sub-pixel present in the display, the defect sub-pixel intended for generating a first sub-pixel color and being surrounded by a plurality of non-defective sub-pixels, a correction device for deriving drive signals for at least some of the plurality of non-defective sub-pixels in accordance with the first characterization data and the second characterizing data, to thereby minimize an expected response of the human vision system to the defect sub-pixel, and means for driving at least some of the plurality of non-defective sub-pixels with the derived drive signals, wherein the correction device comprises means to change the light output value of at least one non-defective sub-pixel intended for generating another sub-pixel color, said another sub-pixel color differing from said first sub-pixel color”.*

c. Markandey et al. (US 5,504,504) is the closes prior art of record fails to disclose “*a matrix display device comprising: a plurality of pixels, said pixels comprising at least three sub-pixels, each sub-pixel intended for generating a sub-pixel color which cannot be obtained by a linear combination of the sub-pixel colors of the other sub-pixels of the pixel, a first memory for storing first*

*characterization data for a human vision system, a second memory for storing second characterization data for at least one defect sub-pixel present in the display device, the defect sub-pixel being intended for generating a first sub-pixel color, a modulation device for modulating, in accordance with the first characterization data and the second characterization data, drive signals for non-defective sub-pixels surrounding a defect sub-pixel so as to reduce the visual impact of the defect sub-pixel present in the matrix display device, said modulation device arranged to change the light output value of at least one non-defective sub-pixel intended for generating another sub-pixel color, said another sub-pixel color differing from said first sub-pixel color”.*

d. Markandey et al. (US 5,504,504) is the closes prior art of record fails to disclose “a control unit comprising: a first memory for storing first characterization data for a human vision system, a second memory for storing second characterization data for at least one defect sub-pixel present in the display, the defect sub-pixel intended for generating a first sub-pixel color and modulating means for modulating, in accordance with the first characterization data and the second characterization data, drive signals for non-defective sub-pixels surrounding the defect sub-pixel so as to reduce the visual impact of the defect sub-pixel, said modulating means arranged to change the light output value of at least one non-defective sub-pixel intended for generating another sub-pixel color, said another sub-pixel color differing from said first sub-pixel color”.



***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- e. Hiroki (US 6,618,115), discloses compensating for defective sub pixel by adjusting driving function of neighboring sub pixels.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitriy Bolotin whose telephone number is (571)270-5873. The examiner can normally be reached on Monday-Friday, 8:00 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on (571)272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. B./

Examiner, Art Unit 2629

/Amare Mengistu/

Supervisory Patent Examiner, Art Unit 2629